

IN THE CLAIMS:

Please cancel Claim 19 without prejudice or disclaimer of subject matter.

Please amend the remaining claims, as follows:

1. (Currently Amended, Withdrawn) A wireless communication apparatus which has a wireless communication ~~means for communicating~~ unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

an instructing ~~means for instructing to~~ unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

a transmission ~~means for transmitting~~ unit constructed to transmit a search signal containing verification data by the wireless communication ~~means~~ unit when a start of authentication is instructed by said instructing ~~means~~ unit; and

an authentication ~~means for,~~ unit constructed to transmit authentication information to the wireless communication device, when a response signal is received by the wireless communication ~~means~~ unit from one wireless communication device after the search signal is transmitted by said transmission ~~means~~ unit and when the verification data is contained in the response signal ~~transmitting authentication information to the wireless communication device.~~

2. (Currently Amended) A wireless communication apparatus which has a wireless communication ~~means for communicating~~ communication unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

an instructing means for instructing to unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

a transmission means for transmitting unit constructed to transmit a search signal containing response time interval data by the wireless communication means unit when a start of authentication is instructed by said instructing ~~means~~ unit; and

an authentication means for, unit constructed to transmit authentication information to the wireless communication device, when a response signal is plural response signals are received by the wireless communication means unit from one wireless communication device at the response time intervals after the search signal is transmitted by said transmission ~~means, transmitting authentication information to the wireless communication device~~ unit.

3. (Currently Amended, Withdrawn) A wireless communication apparatus which has a wireless communication ~~means for communicating~~ unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

a detection means for detecting unit constructed to detect an intensity of a
signal received by the wireless communication ~~means unit~~;

an instructing means for instructing to unit constructed to instruct start of
authentication processing in order to start communicating with a wireless communication
device;

a transmission means for transmitting unit constructed to transmit a
predetermined search signal by using the wireless communication ~~means unit~~ when a start
of authentication is instructed by said instructing ~~means unit~~; and

an authentication means for, unit constructed to transmit authentication
information to the wireless communication device, when a response signal is plural
response signals are received by the wireless communication ~~means unit~~ from one wireless
communication device ~~a plurality of number of times~~ after the search signal is transmitted
by said transmission ~~means unit~~ and when an absolute value of a reception intensity
difference between the response signals is larger than a predetermined threshold T1 and
less than a predetermined threshold T2 ($T2 > T1 > 0$), ~~transmitting authentication~~
~~information to the wireless communication device.~~

4. (Currently Amended, Withdrawn) A wireless communication apparatus
which has a wireless communication means for communicating unit constructed to
communicate with a mobile wireless communication device and ~~executes to execute~~
predetermined processing on the basis of received information, comprising:

~~an instructing means for instructing to~~ unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

~~a setting means for setting~~ unit constructed to set an authentication area narrower than a communicative area after ~~authentication.~~ authentication with respect to the wireless communication ~~means~~ unit when a start of authentication is instructed by said instructing ~~means~~ unit;

~~a transmission means for transmitting~~ unit constructed to transmit a predetermined search signal by the wireless communication ~~means~~ unit after the authentication area is set by said setting ~~means~~ unit; and

~~an authentication means for,~~ unit constructed to transmit authentication information to the wireless communication device, when a response signal is received by the wireless communication ~~means~~ unit from one wireless communication device after the search signal is transmitted from said transmitting ~~means,~~ transmitting authentication information to the wireless communication device unit.

5. (Currently Amended, Withdrawn) A wireless communication apparatus ~~which communicates~~ constructed for communication with a mobile wireless communication device and ~~executes for execution of~~ predetermined processing, comprising:

~~a wireless communication means for switching~~ unit constructed to switch a normal mode based on authentication information and an authentication mode of

performing communication in an authentication area range narrower than an area range in the normal mode;

~~a detection means for detecting~~ unit constructed to detect an intensity of a signal received by the wireless communication ~~means~~ unit;

~~an instructing means for instructing to~~ unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

~~a transmission means for setting~~ unit constructed to set the wireless communication ~~means~~ unit in the authentication mode and ~~transmitting to transmit~~ a search signal containing verification data and response time interval data when a start of authentication is instructed by said instructing ~~means~~ unit; and

~~an authentication means for,~~ unit constructed to transmit authentication information to the wireless communication device, when ~~the response signal plural~~ response signals containing the verification data ~~is~~ are received by the wireless communication ~~means~~ unit from one wireless communication device at the response time intervals after the search signal is transmitted from said transmission ~~means~~ unit and when an absolute value of a reception intensity difference between the response signals detected by said detection ~~means~~ unit is larger than a predetermined threshold T1 and less than a predetermined threshold T2 ($T2 > T1 > 0$); ~~transmitting authentication information to the wireless communication device.~~

6. (Currently Amended, Withdrawn) An electronic device including a wireless communication ~~means for communicating~~ unit constructed to communicate with a predetermined wireless communication apparatus and ~~transmitting to transmit~~ information of a processing target, comprising:

an instructing means for instructing to unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication apparatus;

a first reception means for receiving unit constructed to receive a search signal by the wireless communication ~~means~~ unit when a start of authentication is instructed by said instructing ~~means~~ unit;

a transmission means for transmitting a unit constructed to transmit plural response ~~signal~~ signals containing verification data contained in received search information through the wireless communication ~~means~~ unit; and

a second reception means for receiving unit constructed to receive authentication information through the wireless communication ~~means~~ unit after transmission is performed by said transmission ~~means~~ unit,

wherein when authentication information is received by said second reception ~~means~~ unit, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

7. (Currently Amended, Withdrawn) An electronic device including a wireless communication ~~means for communicating~~ unit constructed to communicate with a

predetermined wireless communication apparatus and ~~transmitting to~~ transmit information of a processing target, comprising:

an instructing means for instructing to-unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

a setting means for setting-unit constructed to set an authentication area narrower than a communicative area after authentication with respect to the wireless communication ~~means-unit~~ when a start of authentication is instructed by said instructing ~~means-unit~~;

a first reception means for receiving-unit constructed to receive a predetermined search signal by the wireless communication ~~means-unit~~ after the authentication area is set by said setting ~~means-unit~~;

a transmission means for transmitting a-unit constructed to transmit plural response ~~signal-signals~~ through the wireless communication ~~means-unit~~ in accordance with ~~reception by~~ reception by said first reception ~~means-unit~~; and

a second reception means for receiving-unit constructed to receive authentication information through the wireless communication ~~means-unit~~ after transmission by said transmission ~~means-unit~~,

wherein when authentication information is received by said second reception ~~means-unit~~, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

8. (Currently Amended, Withdrawn) An electronic device including a wireless communication ~~means for communicating~~ unit constructed to communicate with a predetermined wireless communication apparatus and ~~transmitting to transmit~~ information of a processing target, comprising:

an instructing means for instructing to unit constructed to instruct start of authentication processing in order to start communicating with a wireless communication device;

a setting means for setting unit constructed to set an authentication area narrower than a communicative area after authentication with respect to the wireless communication ~~means~~ unit when a start of authentication is instructed by said instructing ~~means~~ unit;

a first reception means for receiving unit constructed to receive a predetermined search signal by the wireless communication ~~means~~ unit after the authentication area is set by said setting ~~means~~ unit;

a transmission means for transmitting a unit constructed to transmit plural response ~~signal, signals~~ containing verification data contained in received search ~~information, information~~ through the wireless communication ~~means~~ unit at time intervals based on time interval instruction information contained in the search information; and

a second reception means for receiving unit constructed to receive authentication information through the wireless communication ~~means~~ unit after transmission by said transmission ~~means~~ unit,

wherein when authentication information is received by said second reception ~~means-unit~~, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

9. (Currently Amended, Withdrawn) A control method for a wireless communication apparatus which has a wireless communication ~~means for communicating unit constructed to communicate~~ with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a transmission step of transmitting a search signal containing verification data by the wireless communication ~~means-unit~~ when a start of authentication is instructed in the instructing step; and

an authentication step of transmitting authentication information to the wireless communication device, when a response signal is received by the wireless communication ~~means-unit~~ from one wireless communication device after the search signal is transmitted in the transmission step and when the verification data is contained in the response signal ~~transmitting authentication information to the wireless communication device~~.

10. (Currently Amended) A control method for a wireless communication apparatus which has a wireless communication means for communicating unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a transmission step of transmitting a search signal containing response time interval data by the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step; and

an authentication step of transmitting authentication information to the wireless communication device, when ~~a response signal is plural response signals~~ are received by the wireless communication ~~means~~ unit from one wireless communication device at the response time intervals after the search signal is transmitted in the transmission step, ~~transmitting authentication information to the wireless communication device.~~

11. (Currently Amended, Withdrawn) A control method for a wireless communication apparatus which has a wireless communication means for communicating unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

a detection step of detecting an intensity of a signal received by the wireless communication ~~means~~ unit;

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a transmission step of transmitting a predetermined search signal by using the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step; and

an authentication step of transmitting authentication information to the wireless communication device, when ~~a response signal is plural response signals are~~ received by the wireless communication ~~means~~ unit from one wireless communication device ~~a plurality of number of times~~ after the search signal is transmitted in the transmission step and when an absolute value of a reception intensity difference between the response signals is larger than a predetermined threshold T1 and less than a predetermined threshold T2 ($T2 > T1 > 0$), ~~transmitting authentication information to the wireless communication device.~~

12. (Currently Amended, Withdrawn) A control method for a wireless communication apparatus which has a wireless communication means for communicating unit constructed to communicate with a mobile wireless communication device and ~~executes to execute~~ predetermined processing on the basis of received information, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a setting step of setting an authentication area narrower than a communicative area after authentication with respect to the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step;

a transmission step of transmitting a predetermined search signal by the wireless communication ~~means~~ unit after the authentication area is set in the setting step; and

an authentication step of transmitting authentication information to the wireless communication device, when a response signal is received by the wireless communication ~~means~~ unit from one wireless communication device after the search signal is transmitted in the transmitting step, ~~transmitting authentication information to the wireless communication device.~~

13. (Currently Amended, Withdrawn) A control method for a wireless communication apparatus ~~which communicates~~ constructed for communication with a mobile wireless communication device and ~~executes~~ for execution of predetermined processing, comprising:

a wireless communication switching step of switching a predetermined wireless communication ~~means~~ unit between a normal mode based on authentication information and an authentication mode of performing communication in an authentication area range narrower than an area range in the normal mode;

a detection step of detecting an intensity of a signal received by the wireless communication ~~means-unit~~;

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a transmission step of setting the wireless communication ~~means-unit~~ in the authentication mode and transmitting a search signal containing verification data and response time interval data when a start of authentication is instructed in the instructing step; and

an authentication step of transmitting authentication information to the wireless communication device, when ~~the response signal~~ plural response signals containing the verification data ~~is~~ are received by the wireless communication ~~means-unit~~ from one wireless communication device at the response time intervals after the search signal is transmitted in the transmission step and when an absolute value of a reception intensity difference between the response signals detected in the detection step is larger than a predetermined threshold T1 and less than a predetermined threshold T2 ($T2 > T1 > 0$), ~~transmitting authentication information to the wireless communication device~~.

14. (Currently Amended, Withdrawn) A control method for an electronic device including a wireless communication means-for-communicating-unit constructed to communicate with a predetermined wireless communication apparatus and transmitting to transmit information of a processing target, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication apparatus;

a first reception step of receiving a search signal by the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step;

a transmission step of transmitting ~~a response signal~~ plural response signals containing verification data contained in received search information through the wireless communication ~~means~~ unit; and

a second reception step of receiving authentication information through the wireless communication ~~means~~ unit after transmission is performed in the transmission step,

wherein when authentication information is received in the second reception step, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

15. (Currently Amended, Withdrawn) A control method for an electronic device including a wireless communication ~~means for communicating~~ unit constructed to communicate with a predetermined wireless communication apparatus and ~~transmitting to~~ transmit information of a processing target, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication apparatus;

a setting step of setting an authentication area narrower than a communicative area after authentication with respect to the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step;

a first reception step of receiving a predetermined search signal by the wireless communication ~~means~~ unit after the authentication area is set in the setting step;

a transmission step of transmitting ~~a response signal~~ plural response signals through the wireless communication ~~means~~ unit in accordance with reception in the first reception step; and

a second reception step of receiving authentication information through the wireless communication ~~means~~ unit after transmission in the transmission step,

wherein when authentication information is received in the second reception step, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

16. (Currently Amended, Withdrawn) A ~~control~~ control method for an electronic device including a wireless communication means for communicating unit constructed to communicate with a predetermined wireless communication apparatus and ~~transmitting to~~ transmit information of a processing target, comprising:

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication apparatus;

a setting step of setting an authentication area narrower than a communicative area after authentication with respect to the wireless communication ~~means~~ unit when a start of authentication is instructed in the instructing step;

a first reception step of receiving a predetermined search signal by the wireless communication ~~means~~ unit after the authentication area is set in the setting step;

a transmission step of transmitting ~~a response signal,~~ plural response signals, each containing verification data contained in ~~received,~~ received search information, through the wireless communication ~~means~~ unit at time intervals based on time interval instruction information contained in the search information; and

a second reception step of receiving authentication information through the wireless communication ~~means~~ unit after transmission in the transmission step,

wherein when authentication information is received in the second reception step, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

17. (Currently Amended, Withdrawn) A ~~computer~~ non-transitory computer-readable storage medium on which is stored a computer-executable program for a wireless communication apparatus ~~which communicates~~ constructed for communication with a mobile wireless communication device and ~~executes~~ for execution of predetermined processing, ~~serving as:~~ wherein said computer-executable program causes the wireless communication apparatus to perform steps comprising:

~~wireless communication means for switching a normal mode based on authentication information and an authentication mode of performing communication in an authentication area range narrower than an area range in the normal mode;~~

~~detection means for detecting an intensity of a signal received by the wireless communication means;~~

~~instructing means for instructing to start authentication processing in order to start communicating with a wireless communication device;~~

~~transmission means for setting the wireless communication means in the authentication mode and transmitting a search signal containing verification data and response time interval data when a start of authentication is instructed by the instructing means; and~~

~~authentication means for, when the response signal containing the verification data is received by the wireless communication means from one wireless communication device at the response time intervals after the search signal is transmitted from the transmission means and when an absolute value of a reception intensity difference between the response signals detected by the detection means is larger than a predetermined threshold T1 and less than a predetermined threshold T2 ($T2 > T1 > 0$), transmitting authentication information to the wireless communication device~~

a detection step of detecting an intensity of a signal received by the wireless communication unit;

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication device;

a transmission step of transmitting a predetermined search signal by using the wireless communication unit when a start of authentication is instructed in the instructing step; and

an authentication step of transmitting authentication information to the wireless communication device, when plural response signals are received by the wireless communication unit from one wireless communication device after the search signal is transmitted in the transmission step and when an absolute value of a reception intensity difference between the response signals is larger than a predetermined threshold T1 and less than a predetermined threshold T2 ($T2 > T1 > 0$).

18. (Currently Amended, Withdrawn) A ~~computer-non-transitory~~ computer-readable storage medium on which is stored a computer-executable program for an electronic device including a wireless communication means for communicating unit constructed to communicate with a predetermined wireless communication apparatus and ~~transmitting to transmit~~ information of a processing target, ~~serving as:~~ wherein said computer-executable program causes the electronic device to perform steps comprising:

~~instructing means for instructing to start authentication processing in order to start communicating with a wireless communication device;~~

~~setting means for setting an authentication area narrower than a communicative area after authentication with respect to the wireless communication means when a start of authentication is instructed by the instructing means;~~

~~first reception means for receiving a predetermined search signal by the wireless communication means after the authentication area is set by the setting means;~~

~~transmission means for transmitting a response signal containing verification data contained in received search information through the wireless communication means at time intervals based on time interval instruction information contained in the search information; and~~

~~second reception means for receiving authentication information through the wireless communication means after transmission by the transmission means;~~

~~wherein when authentication information is received by the second reception means, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information~~

an instructing step of instructing to start authentication processing in order to start communicating with a wireless communication apparatus;

a first reception step of receiving a search signal by the wireless communication unit when a start of authentication is instructed in the instructing step;

a transmission step of transmitting plural response signals containing verification data contained in received search information through the wireless communication unit; and

a second reception step of receiving authentication information through the wireless communication unit after transmission is performed in the transmission step.

wherein when authentication information is received in the second reception step, communication is subsequently performed with the wireless communication apparatus on the basis of the authentication information.

19. (Canceled)